

Federal Financing Assistance Programs: What's Available to Manufacturers?

Without outside guidance and support, few small manufacturers are able to secure all the financing resources they need to modernize, adopt the right efficiency improvements, and improve productivity. This *toolbook* seeks to serve as a handbook of basic information and contacts for manufacturers that want to stay competitive, but often don't know where to look for help.

The Federal Government offers a wide variety of programs -- loan guarantees, grants, and technology transfer support, and technical assistance -- to help reverse shortcomings in the capital markets. As the program explanations will show, some of these tools are administered directly by Federal agencies, while others are coordinated by private organizations, local development agencies, and non-profit development groups.

This section reviews financial and technical assistance initiatives overseen by Federal agencies with particular interest in manufacturing. Through its *Office of Industrial Technologies (OIT)*, the *Department of Energy* acts as a partner to industry in its efforts to operate more efficiently. A key component of OIT is to provide research and development, and direct financial assistance, as an investment in the long-term growth and competitiveness of U.S. manufacturing. Key programs include:

- National Industrial Competitiveness through Energy, Environment, and Economics, known as NICE³;
- Industrial Assessment Centers;
- Motor Challenge
- resources available through various DOE labs
- Climate Wise
- technical assistance for "Industries of the Future" and "Inventions and Innovation"

Several Small Business Administration programs are also profiled. In total, they provide billions of dollars in assistance annually to all types of small businesses, including manufacturers. Programs include:

- general-business loan guarantees, the Section 7(a) program, SBA's largest, which helps small businesses gain access to private capital to finance plant construction, conversions, and expansions, as well as acquire equipment, facilities, and supplies;

- special programs targeted to women and minority small business owners;
- development company guarantees, through Section 504, of debentures issued by certified public-private development groups to provide companies with long-term, fixed-asset financing;
- Small Business Investment Companies, SBICs, licensed by SBA to make venture and other equity investments in emerging small companies;
- technical assistance available through small business development centers (SBDCs).

Other programs profiled include:

- the Manufacturing Extension Partnership operated by the National Institute of Standards and Technology; and
- NASA's National Technology Transfer Network.

In each case, several types of information are provided so the reader can determine the nature of the support out there, what it can do, and who is eligible to receive it:

- program description and objective or mission -- what does it do, and what is it designed to achieve?
- eligible activities -- what can be done or what can be supported or financed with program resources?
- program costs and services;
- agency contacts -- address, phone, fax, and e-mail information for the program's headquarters office, as well as local or regional program centers.
- other contacts -- lists of banks and other program partners.

United States Department of Energy The Office of Energy Efficiency and Renewable Energy

Overview

The Office of Energy Efficiency and Renewable Energy (EE) develops cost-effective energy efficiency and renewable energy technologies that protect the environment and support the Nation's economic competitiveness. EE achieves this goal through a strong and balanced program of research, development, and market deployment through private sector partnerships. EE is organized around the four main energy users—utilities, industry, transportation, and buildings. This orientation toward end users has helped the technology development programs focus on addressing the needs of the marketplace.

Office of Industrial Technologies

Industry accounts for 37% of the energy we consume as a Nation. Virtually every manufacturing process uses more energy than necessary. The Office of Industrial Technologies (OIT) collaborates with industry to improve the energy efficiency and productivity of industrial processes. OIT manages programs to reduce energy use through new technologies in heat recovery, energy utilization, and industrial and municipal waste management. Other programs develop process improvements and innovations for specific energy-intensive industries such as pulp and paper, steel, and chemicals. In addition, applied research in combustion, biotechnology, advanced materials, and heat transfer will provide the foundation for future advances in technology. An active technology transfer program provides an effective link between the research and development programs and the community of potential users.

Office of Utility Technologies

Electricity now accounts for 36% of the Nation's energy consumption, and its use is expected to grow 15% by the end of the century. Increased energy efficiency and renewable energy could play a significant role in meeting that increased electrical demand. To that end, the Office of Utility Technologies (OUT) is working with industry to improve the cost and performance of renewable energy technologies, including photovoltaics, solar thermal power, biomass power, wind power, hydroelectric power, and geothermal energy. OUT encourages utility energy efficiency by managing research in advanced transmission and distribution technologies, high temperature superconductivity, and energy storage as well as by supporting programs that promote integrated resource planning.

Office of Transportation Technologies

Transportation consumes more than 60% of the oil used in this country, and almost half of that oil is imported. To reduce our Nation's dependence on foreign oil and reduce the air pollution caused by gasoline-powered vehicles, the Office of Transportation Technologies (OTT) supports research in electric and hybrid vehicles; fuel cells and other advanced power

sources; alternative fuels made from biomass and other renewable energy sources; and advanced materials such as high-temperature ceramics for gas turbine and diesel engines. OTT is a partner in the U.S. Advanced Battery Consortium—composed of the three major U.S. automakers, leading electric utilities, and battery companies—working to develop improved batteries for electric vehicles.

Office of Building Technologies

State and Community Programs. Residential and commercial buildings account for more than one-third of the Nation's total energy use and consume about two-thirds of the Nation's electricity. The Office of Building Technologies (OBT) supports private sector efforts in the building industry to improve energy efficiency and increase the use of renewable energy. OBT supports basic and applied research on building systems and materials, primarily focused on the building envelope and the indoor environment and how they interact in determining energy performance. Other OBT research activities focus on the equipment that provides heating, cooling, ventilation, lighting, hot water, and other services necessary for safe, efficient building operation. OBT also fulfills legislative requirements for DOE to set energy efficiency standards for buildings and household appliances.

Additional Information

Each of these programs offer many resources that are useful to industry. Further information can be obtained from our Customer Service Center at (800) 363-3732 or our web site at <http://www.eren.doe.gov>.

DOE/EE also has the following six regional support offices:

Chicago Regional Support Office

Contact: Val Jensen
Phone: (312) 886-8590
Fax: (312) 886-8561

Philadelphia Regional Support Office

Contact: Charlie Baxter
Phone: (215) 656-6955
Fax: (215) 656-6981

Boston Regional Support Office

Contact: Hugh Saussy
Phone: (617) 565-9710
Fax: (617) 585-9723

Denver Regional Support Office

Contact: Bill Becker
Phone: (303) 275-4801
Fax: (303) 275-4839

Atlanta Regional Support Office

Contact: Jim Powell
Phone: (404) 347-2837
Fax: (404) 347-3098

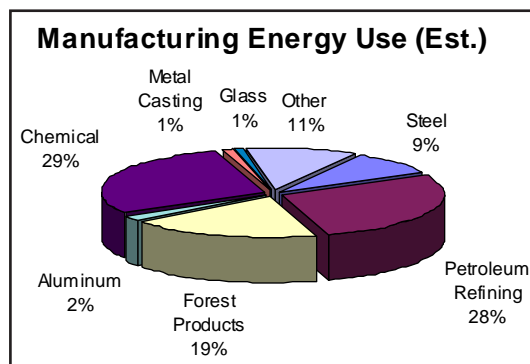
Seattle Regional Support Office

Contact: Kathy Vega
Phone: (206) 553-1132
Fax: (206) 553-2200

Industries of the Future Initiative

OBJECTIVE:	To help companies within the Department of Energy's <i>Industries of the Future</i> increase their competitiveness and decrease their environmental impact
ELIGIBILITY:	Business activity within one of seven <i>Industries of the Future</i>
COST:	No preset costs
SERVICES:	Coordinates Government and industry research efforts, provides access to existing Government technology, and allows the integration of industry-wide efforts

The Industries of the Future (IOF) initiative is a collaborative effort between DOE's Office of Industrial Technologies (OIT) and seven energy-intensive industries. These include the steel, aluminum, metalcasting, glass, chemicals, petroleum refining, and forest products industries. Collectively, these industries represent almost 80% of all manufacturing energy use. Because of their energy intensive nature, these industries stand to gain the most from advances in energy-efficient technologies. Often, however, the research and development costs required to realize significant cost reductions in these industries are prohibitively high, and individual firms, especially small firms, often lack the capacity to pursue such research.



The goal of IOF is to identify such high-risk, high-payoff technologies, and encourage industry-wide and industry-Federal cooperative research efforts. By identifying these promising but risky areas, industry can provide a roadmap for further Federal efforts, where, if appropriate, the National laboratory network can apply its research capability to best aid the needs of American industry.

Additionally, the IOF creates new lines of communication within and across industry groups, and between industry and the Government. These efforts help accelerate the development, dissemination, and use of innovative technologies.

The goals of the initiative, broadly defined by the Department of Energy are to:

- help identify leverage points by providing a means for matching National capabilities with technology needs and by establishing R & D partnerships between industry and Government participants;
- encourage more coordinated efforts by firms, universities, States, and Federal agencies;

- enable more coordinated and carefully focused Government support of industrial technology and foster intra- and inter-agency alliances within Government;
- simplify and streamline the process of working with Government, including contracting and procurement;
- stimulate the development and use of technologies that increase energy efficiency and lower the costs of environmental protection and regulatory compliance in industry;
- make it easier for industry to penetrate the maze of programs at DOE National labs, enable more effective use of the system's specialized and often very high-level technological capabilities, and help focus the competencies of DOE and other Federal labs on industrial applications.

As part of this process, the Laboratory Coordinating Council (which was formed in response to IOF input) helps expedite industry-wide access to the National laboratory system, including DOE facilities.

The IOF program is unique in its focus on the broadest level of industrial processes, and its industry-led nature. Individual firms, their suppliers, trade organizations, and other private participants direct the focus of the process. OIT offers to facilitate this process by:

- Helping to coordinate the input of the many stakeholders
- Assisting in the planning and provision of draft portions of the technology roadmaps
- Identifying other Government resources of potential interest to the industry
- Providing cost-sharing to many R & D projects identified through the IOF process

Central to the IOF process is the development of an industry vision document, which outlines the major challenges and opportunities existing within an industry, and sets strategic technical objectives and performance targets. From this document, a formal compact is developed, outlining the future collaborative efforts of the industry/Government coalition.



For more information, contact:

The Office of Industrial Technologies

EE-20

U.S. Department of Energy

1000 Independence Avenue, SW

Washington, DC 20585

Phone: 1-800-DOE-EREC

Web: <http://www.oit.doe.gov>

Climate Wise

OBJECTIVE:	To work with industry to find creative ways of using energy-efficient technology to improve industrial productivity, prevent pollution, and encourage economic growth
ELIGIBILITY:	All businesses
COST:	No preset costs
SERVICES:	Assistance in the identification and deployment of energy-efficient and environmentally friendly technologies that reduce the emission of greenhouse gasses

Climate Wise is a gateway program sponsored by the Department of Energy's Office of Industrial Technologies and the Environmental Protection Agency. The explicit goal of the program is the reduction of greenhouse gas emissions made by corporations either through their manufacturing activities, operations of the physical plant, or associated activities encountered through the course of business.

The centerpiece of the Climate Wise program is the Climate Wise Partnership Agreement, a one-page form that signifies enrollment in the program. Then, companies submit an Action Plan, which details their specific strategy for reductions in emissions. By joining the program, Climate Wise partners agree to initiate, expand, or accelerate cost-effective measures to improve efficiency and protect the environment.

In exchange, DOE offers extensive support for the enrolled company, including access to programs elsewhere listed in this manual. Climate Wise also publishes the names of participating companies, advertising their environmentally friendly nature to consumers nationwide. The list of Climate Wise participants is over 300 small and large manufacturing companies. Climate Wise partners include:

- Coors Brewing Company
- Dow Chemical Company
- DuPont
- ETTA Industries
- Fetzer Vineyard
- General Motors Corporation
- Georgia Pacific Corporation
- Johnson & Johnson
- Lockheed Martin
- Majestic Metal, Inc.
- Quad/Graphics
- Weyerhaeuser Company

Participation is not limited to any one industry or sector of the economy. Any company can participate, and each has something to contribute to the Nation's collective environmental goals. Total Petroleum, for example, is currently installing several state-of-the-art technologies: an advanced absorption refrigeration unit, a high transmission heat exchanger, and a number of lighting, motor system, and instrumentation upgrades. After these upgrades Total Petroleum increased its FCC capacity by 10%; recovered 200 barrels per day of fuel; eliminated flare NOx emissions, and saved \$1.4 million per year.



For more information, contact:

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Industrial Assessment Centers (IACs)

OBJECTIVE:	To help small and medium-sized manufacturers improve productivity, reduce waste, and improve energy efficiency
ELIGIBILITY:	Small and medium-sized manufacturers (SIC 20-39, typically with 500 or fewer employees)
COST:	Free of Charge
SERVICES:	Technical assistance from graduate engineering students from affiliated university programs

Description

The Department of Energy's Office of Industrial Technologies has sponsored no-cost energy assessments for small and medium-sized manufacturers since 1976. Formerly known as the Energy Analysis and Diagnostic Center program (EADC), the Industrial Assessment Center Program currently operates 30 IACs covering territory in 42 states. The transition from EADCs to IACs reflects the expansion of the scope of the program from energy efficiency audits to the inclusion of productivity enhancement and waste reduction efforts.

Through October of 1996, IACs have conducted of 6,900 assessments for firms in 19 industrial subsectors. Plants employed less than 500 workers and generated less than \$75 million in gross sales. The average firm employed 160 workers and generated \$21 million in gross annual sales and \$364,000 in annual energy expenses.

Qualifications

IACs provide small manufacturers access to local engineering school expertise. Participating institutions hosting IACs have engineering programs with certification by the Accreditation Board for Engineering and Technology (ABET) and have been competitively selected. Student teams conducting these assessments are directed by faculty. Detailed professional reports are provided within 60 days of the visit. A follow-up inquiry is made within 6 to 9 months to confirm those recommendations that will be implemented.

Impact

Significant benefits accrue on the shop floor. Small firms often lack in-house expertise to identify the latest in energy efficient technology, or to implement the most effective money saving improvements. Providing independent, professional assessments, with a 50% implementation rate, energy audits have generated an average savings *per firm* of \$20,000 and 2 billion BTUs of energy. In broader IAC assessments, the average firm accepted 50% of IAC suggestions, recommending in an average savings of \$55,000.

Application Process

To qualify for an assessment, a plant must fall within Major Group D (Manufacturing) of the Standard Industrial Codes list. This group includes all SIC numbers between 2000 and 3900. In addition, the plant must be within 150 miles of an assessment center, and meet three of the following four criteria:

- Gross Sales of less than \$75 million
- Gross energy costs of more than \$75,000 and less than \$1,750,000
- A maximum of 500 employees
- Lack of in-house expertise in the assessment area



For more info, or to apply for an assessment, contact:

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Industrial Assessment Centers

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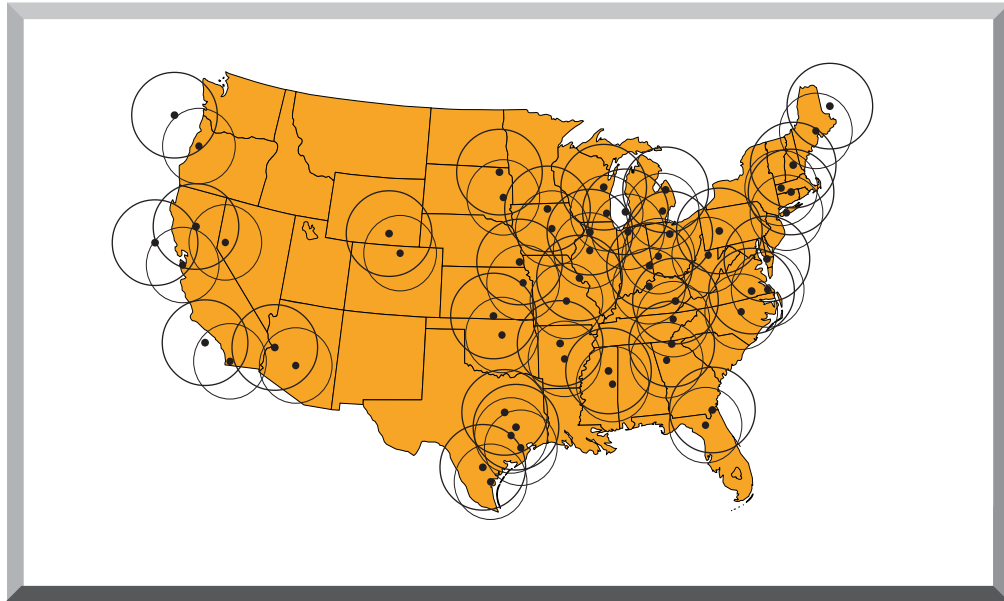
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Industrial Assessment Center Locations



Inventions and Innovation Program

Objective:	Provides funding and commercialization support for the development of energy saving inventions.
Eligibility:	Independent and small business applicants are given preference
Cost:	Free of Charge
Services:	Technical support and grants of up to \$100,000 (ERIP) and \$25,000 (InnCon) and two-day innovation workshops (NIW)

Energy Related Inventions Program (ERIP)

ERIP was founded in 1975 to encourage inventors and innovators to patent and commercialize concepts, products and processes that contribute significantly to energy efficiency or increases in available energy. Through 1992, 591 such projects had received support, averaging over \$85,000 per proposal. Total grants have exceeded \$38 million. The ERIP selection process is extremely rigorous, having screened over 33,000 applications to identify these particularly promising proposals.

Successful applicants complete a two-stage screening process directed by the National Institute of Standards (NIST), and are assigned an Invention Coordinator at the Department of Energy's Inventions and Innovation program upon referral from NIST to DOE. The coordinator initiates a market analysis of the submission with a DOE contractor, and provides a three-day workshop for the inventor. While at the workshop, the inventor works one-on-one with program faculty to develop a commercialization plan for the product.

In conjunction with the coordinator, the inventor reviews possible commercialization options, and develops a grant request for support from DOE. Support is provided through grant money, or DOE-sponsored testing at Government labs. Grant money is not provided for production costs such as assembly tooling.

The Application Process. To apply for support from DOE under the Energy Related Inventions Program, an invention or process must be energy related. For the purposes of the program, energy related means the product must significantly contribute to National energy savings or energy efficiency, or increase non-nuclear energy supplies. NIST uses this criteria as an initial screen, and rejects 50% of proposals as not energy-related.

Energy related proposals may be submitted to NIST along with form 1019, the *NIST Request for Evaluation* which is available from NIST or DOE (a copy is included here). Applications should clearly explain the invention's uniqueness, how its performance or cost is superior to currently available technology, and describe its possible impact on National energy use or reserves. Models should not be submitted, but drawings are encouraged.

If the submission is within the scope of ERIP (if it is energy related), it proceeds to the first stage of evaluation. Typically, this evaluation is performed by a Government scientist or engineer, but it may be referred to an outside expert. The findings of these experts are evaluated by an Office of Industrial Technology Evaluation and Assessment (OTEa) staff member. If the submission is determined to be promising, it is referred to the second stage of evaluation. A *promising* submission is deemed to be technologically feasible, commercially viable, and must be significantly contributory to National energy goals. Ten percent of eligible submissions pass the first phase.

The second stage of the evaluation is a more rigorous analysis of the product that seeks to confirm the results of the first stage evaluation. One third of first stage referrals are confirmed, and are then recommended to DOE for funding.



For more information, contact:

Office of Technology Evaluation and Assessment

National Institute of Standards and Technology

ATTN: ERIP

Gaithersburg, MD 20899

Phone: (301) 975-5500

E-mail: innovate@enh.nist.gov

Innovative Concepts Program (InnCon)

The Innovative Concepts Program is a targeted research program which issues a yearly or biannual topic related to energy, and encourages private-sector innovators to submit proposals in the target area. Through each cycle, 10-20 projects are selected and awarded \$15,000 to \$25,000 in seed money. In addition, each cycle culminates in a technology fair, where innovators present their projects to potential private-sector buyers. DOE aides innovators prior to the fair by sponsoring a workshop and providing commercialization and market analysis support.

<i>Track Record of Past Innovators</i>			
Fair Topic	Concepts Funded	InnCon Seed Money	Follow on Funding
Building Materials (1984)	12	\$171 K	\$1.3 M
Industrial Processes I (1985)	10	\$158 K	\$7.3 M
Seperations Processes (1988)	10	\$148 K	\$1.6 M
Building Retrofit (1989)	8	\$160 K	\$1.1 M
Waste Minimization I (1991)	15	\$300 K	\$1.2 M
Waste Minimization II (1993)	15	\$300 K	\$8.4 M
Industrial Processes II (1994)	16	\$330 K	\$0.8 M
Total for 7 Cycles	86	\$1,567 K	\$21.7 M

The topic for each cycle is announced in the Commerce Business Daily and the Federal Register. Prospective applicants may be placed on a mailing list by one of the contacts below. The application period for the 1997 cycle has just closed. Topics involved materials science and the aluminum industry. The research areas for the 1998 cycle will be announced in the spring of 1998.



For more info, or to be added to the mailing list, contact:

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National Innovation Workshops

The Department of Energy also hosts a series of National Innovation Workshops. These events typically last two days, from 9 am to 5 pm on a Friday and Saturday. Each workshop offers a keynote and luncheon speaker, and covers such topics as:

- Patenting and Protection
- New Business Start-Up
- R & D and Venture Financing
- The Small Business Innovation Research (SBIR) Program
- Licensing and Marketing
- Business Plans
- The Energy Related Inventions Program

Upcoming events include:

Waterbury, Connecticut

October 16-18 1997

William Crutcher

Grager & Peterson

Phone: (203) 597-5100

Fax: (203) 757-7888



For more NIW information, contact:

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Fax: (703) 698-6062

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Motor Challenge

OBJECTIVE:	To promote a systems approach to the design, purchase, and management of electric motor-driven systems throughout the manufacturing sector
ELIGIBILITY:	All Businesses
COST:	Free of Charge
SERVICES:	Provides recommendations, technical support, and energy-saving information

Description

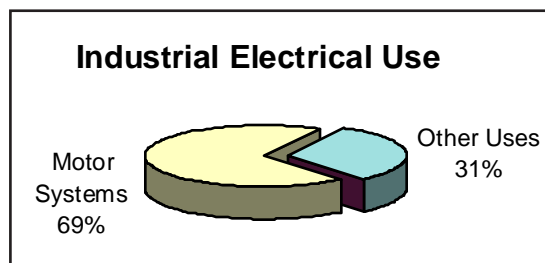
Seventy percent of all industrial electricity use is spent powering motors supporting the manufacturing process and physical plant operations. Optimizing inefficient motor systems provides an opportunity to reduce the electrical consumption of buildings and manufacturing plants, saving firms money and decreasing the environmental impact of the power generation needed to feed these motors.

The Department of Energy's Motor Challenge program provides the information and support necessary to reduce dependence on outdated, mismatched, or otherwise inefficient motor systems. The Office of Industrial Technologies (OIT) estimates that improvements implemented through the Motor Challenge program will help industry

capture 2 billion kilowatt-hours (kwh) per year of electricity savings by the year 2000 through the use of energy-efficient electric motor systems. This figure translates to \$100 million in energy cost savings and 0.5 million metric tons of carbon equivalent in emissions reduction per year. Individual manufacturers stand to save 10-20% (sometimes as much as 30%) through the replacement of inefficient motor systems. In electrically intensive production lines, this translates into a 6% to 18% reduction in *overall* production costs.

Industry Partnerships include:

- Compressed Air and Gas Institute
- Hydraulic Institute
- Air Movement and Control Association
- Electrical Apparatus Service Association
- National Electrical Manufacturers Association



Qualifications

OIT's Motor Challenge goal is to provide market-driven solutions to industry partners through the latest in product information and technical support. To ensure access to the latest and most profitable information, Motor Challenge has teamed up with industry trade associations and other private-sector entities. This relationship allows the Motor Challenge program to offer the most up-to-date advice, allowing end-users to make the most cost-effective decisions possible.

Motor Challenge at Work: Peabody Holding

Peabody Holding, a large US coal producer, recently improved the pumping system at its Randolph Coal Preparation Center. By replacing three parts — the motor, the belt drive, and the pump — Peabody realized savings of \$5,000 per year from improvements in a single 100 horsepower system. In conjunction with U.S. Electric Motors, Georgia Iron Works Industries, Illinois Power Co., and The Benham Group, Peabody sponsored a Motor Challenge Showcase Demonstration, with power savings validated by an independent DOE performance audit.

The Randolph plant operates six cyclone pumps as part of its coal washing process. Each pump was equipped with a 10" suction and discharge, a 32" impeller, and was driven by a 100 horsepower motor with a V-belt drive. By replacing the motor with an energy efficient model, replacing the V-belt with a toothed belt, and by reducing the pump and impeller size, the operating cost of a single pumping system was reduced by \$5,000 annually.

Motor Challenge Partnership

Joining as a Motor Challenge partner is the entry point into the program. By April 15, 1997, 1,942 establishments had joined the partnership and received:

- a copy of the MotorMaster+ software (described below);
- access to the Motor Challenge Information Clearinghouse, providing up-to-date technical information and support;
- a subscription to the Motor Challenge bimonthly newsletter, *Turning Point*.

In addition, partners serve as a guiding force for the Motor Challenge ensuring that the program remains focused on meeting the needs of U.S. Industry.

Motor Challenge Allied Partnership

The Motor Challenge Allied Partnership aids suppliers in increasing the energy efficiency awareness of customers. Each Allied Partner completes an Action Plan outlining how it plans to work with the Motor Challenge program, distribute information products, cooperate in training activities, and/or provide other types of assistance to industrial end users. In exchange, these Allied Partners have access to the broad array of Motor Challenge publications and decision tools, which they distribute to industrial end user customers during daily business or in conjunction with customer education meetings or workshops.

Excellence Partnership

Excellence Partners make an extended commitment to system optimization by pursuing continual improvements in electric motors and motor systems. In addition to joining the Motor Challenge Partnership, Excellence Partners:

- develop and implement a motor systems management plan with defined energy savings goals;
- establish a benchmark, and monitor energy saving through the life of the project;
- report energy savings progress to the Motor Challenge program.

In exchange, the member establishment gains tailored resources that help manage the upgrade process for a project involving an entire company, specific plant or department, or even a single process.

MotorMaster+ Software

The MotorMaster+ Software is an integrated motor selection and maintenance package which provides companies with the selection tools necessary to assure a correct motor-to-installation match. The package contains a database which carries up-to-date information on more than 13,800 3-phase National Electric Manufacturers Association Design A and B induction motors. The motors range from 1 to 600 horsepower, and have speeds ranging from 900 to 3600 RPM. The database tracks motor efficiency (as measured by the Institute for Electronic and Electrical Engineers (IEEE) 112 Test Method B protocol), part-load efficiency, power factor, full-load speed, torque, voltage, list price, warranty, utility rebate

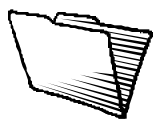
schedules and rebate qualification requirements. Price, performance and efficiency can easily be compared among a number of motors appropriate for a given task. In addition, MotorMaster+ software can track motor inventory, operational data, life cycle cost forecasting, and energy accounting and evaluation through its Savings Tracker module.

The screenshot displays the 'Motor Catalog Detail' window of the MotorMaster+ software. It features a form for entering motor specifications and a table for performance data. The specifications include Manufacturer (US Motors), Model (PREMIUM EFF / UTE), Catalog (A44), Motor type (NEMA Design B), Size (HP) (20), Full load speed (RPM) (1775), Speed (RPM) (1800), Enclosure type (TEFC), Frame No. (2561), Voltage rating (230/460 volts), and Definite purpose. The performance data table includes Efficiency (%), Power Factor (%), Torque (ft-lb), Amperage (amps), Stalled rotor time (sec.), and Peak voltage. A note at the bottom states: 'For multi-voltage motors, amperage data shown is consistent with operation at 460 volts. See HELP topic "Interpreting a Motor Record" for more information.'

Efficiency (%)	Power Factor (%)
Full Load: 93.6	Full Load: 94.0
75% Load: 94.2	75% Load: 93.1
50% Load: 94.1	50% Load: 76.9
25% Load: 91.6	25% Load: 58.4

Torque (ft-lb)	Amperage (amps)
Full Load: 58.3	Full Load: 23.6
Breakdown: 136.2	Idle: 6.6
Locked Rotor: 133.9	Locked Rotor: 139.9

Stalled rotor time (sec.)	Peak voltage
Hot: 10	@ 8 ms: 10
Cold: 10	@ 5 ms: 10



For more information, contact:

The Motor Challenge Information Clearinghouse

P.O. Box 43171

Olympia, WA 98504-3171

Phone: (800) 862-2086

Fax: (360) 586-8303

E-mail: motors@eicbbs.wseo.wa.gov

Web: <http://www.motor.doe.gov>

Or contact one of the following regional offices:

Office: **Atlanta Support Office**

Contact: Tim Eastling

Address: 730 Peachtree Street
Suite 876

Atlanta, GA 30308

Phone: (404) 347-7141

Fax: (404) 347-3098

States: NC, TN, NC, SC, GA, AL, FL,
MS, LA, AK plus PR, VI and
US Caribbean possessions

Office: **Chicago Support Office**

Contact: Sharon Gill

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Chicago, IL 60606

Phone: (312) 886-8573

Fax: (312) 886-8561

States: MI, OH, IN, IL, WI, MN,
IA, MO, KY

Office: **Philadelphia Support Office**

Contact: Leah Boggs

Address: 1800 John F. Kennedy Blvd.
Suite 501

Philadelphia, PA 19103-7483

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and Washington, DC

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Contact: Roxanne Danz

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Room 1101

Boston MA 20211

Phone: (617) 565-9714

Fax: (617) 565-9723

States: ME, VT, NH, CT, RI, MA, NY

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Fax: (510) 637-2017

States: WA, OR, ID, NV, CA, AZ, HI
and the Pacific Territories

National Industrial Competitiveness Through Energy, Environment, and Economics (NICE³)

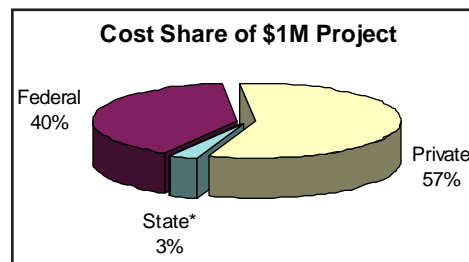
OBJECTIVE:	To facilitate the commercialization of technologies that promote energy efficiency, clean production, and economic competitiveness in industry
ELIGIBILITY:	Cooperative State/private efforts meeting certain criteria
SERVICES:	NICE ³ provides one-time funding of up to \$425,000 for projects selected on a competitive basis. Non-Federal cost-share of at least 55% of the total project cost is required.

The intent of the NICE³ program is to promote the initial commercialization of pollution and energy saving technologies that will enhance the competitiveness of American industry. This is accomplished through an innovative cooperative structure fostering alliances between State Governments and the private sector. To be considered for NICE³ funding, industry applicants must submit proposals through State energy, environment, or business development offices. Since its inception in 1991, NICE³ has funded 78 projects with \$25 million.

NICE³ selection criteria fall into three categories. Preference is given to projects based on environmental impact, industrial classification, and success in improving the competitiveness of the underlying process. DOE lists the following specific criteria:

- Concept Description
- Cost Efficiency
- Energy Savings
- Competitiveness
- Impact on Jobs
- Innovation
- Application Capabilities
- Waste Reduction
- Commercialization/Marketing Plan

Because of their energy- and waste-intensive nature, further preference is given to projects that promote the visions of the industries in the Office of Industrial Technologies' Industries of the Future initiative, including the aluminum, chemicals, forest products, glass, metalcasting, petroleum refining, and steel industries. Several areas have been excluded from the program, including nuclear waste and radiation; electromagnetic radiation (EMF); waste treatment and disposal; hazardous waste site remediation; cross-media contamination shifts; municipal solid waste collection or separation; and noise abatement.



1998 Solicitation Timeline

The 1998 NICE³ Solicitation opens August 1, 1997, and closes on December 10, 1997, though some States may have earlier deadlines for submission to their offices. Optional two page abstracts will be accepted through July 1, 1997, and comments will be returned within two weeks. Technical evaluations of the proposals, and the meeting of the National Selection Panel, will occur in February 1998. Award announcements will be made in March 1998.



Questions regarding 1997 solicitations should be made to:

Robert Brown

Department of Energy, Atlanta Regional Support Office
730 Peachtree Street, Suite 876
Atlanta, GA 30308

Phone: (404) 347-3098

E-mail: robert.brown@hq.doe.gov

The following addresses are for submitting the applications:

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NC, SC, TN, VI)

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Boston Regional Support Office**

Attn: Jean Crocker
One Congress Street
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(CT, ME, MA, NH, NY, RI, VT)

**U.S. Department of Energy
Seattle Regional Support Office**

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AS, GU, PW)

**U.S. Department of Energy
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The Award

At least 55% of the cost of the project must be shared by the State and the industrial partner. The remaining 45% will be awarded by the Federal Government, up to \$400,000 for expenses incurred by the private partner over a three-year period. The lesser of \$25,000 or 10% of the total award may be given to the State (for a maximum Federal contribution of \$425,000, or 45%) for expenses such as technology transfer and marketing. The private partner may not gain a profit, or collect a fee associated with the award. Approximately \$5 million was available for the 1997 proposal cycle. At the end of the three year period, it is expected that the process or practice will be commercialized.

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Olympia, WA 98504-3165
Phone: (360) 956-2000
Fax: (360) 956-2229

West Virginia

Jeff Herholdt
Development Office
Energy Efficiency Program
Bldg. 6, Room 553
Capitol Complex
Charleston, WV 25305
Phone: (304) 558-4010
Fax: (304) 558-3248

Bill Brannen
Water Resource Division
WV Dept. of Commerce,
Labor, & Environmental
Resources
1356 Hansford St.
Charleston, WV 25301
Phone: (304) 558-5905

Wisconsin

Jolene Anderson
Division of Energy and
Intergovernmental Relations
Department of Administration
101 East Wilson St.
P.O. Box 7868
Madison, WI 53707-7868
Phone: (608) 266-7375
Fax: (608) 267-6931

Jim Frymark
WI Dept. of Development
123 West Washington Ave.
PO Box 7970
Madison, WI 53707
Phone: (608) 266-2742
Fax: (608) 264-6151

Wyoming

John S. Nunley
Economic and Community
Development
Energy Division
4 North Barrett Bldg.
Cheyenne, WY 82002
Phone: (307) 777-5454
Fax: (307) 777-5840

DOE National Laboratory Resources

OBJECTIVE:	To provide access to the knowledge, resources, and expertise of DOE's premier laboratories.
ELIGIBILITY:	All
COST:	Some services provided free of charge, others vary in cost
SERVICES:	Extensive variety

Services

DOE offers a number of technology partnership programs providing manufacturers with access to the tremendous resources and problem solving capacities of these premier facilities. DOE labs have a long history of excellence in a number of fields related to industrial processes including applied energy research; systems engineering; pollution control and remediation; materials science; instrumentation; biotechnology; advanced manufacturing; software; and transportation technology. By taking advantage of the expertise and facilities available from the labs, businesses gain access to top level scientific and engineering capabilities, realize significant savings through the use of existing facilities, and find solutions to difficult problems that are not obtainable elsewhere.

Companies that are partners in the Alliance/Climate Wise program are encouraged to apply for up to one week of free technical assistance from a researcher at the Alliance Virtual laboratory. Five National labs participate in the Virtual Lab: Argonne National Laboratory (ANL), National Renewable Energy Laboratory (NREL), Oak Ridge National Laboratory (ORNL), Pacific Northwest National Laboratory (PNNL), and Sandia National Laboratory (SNL). Each of these labs has world-class expertise in industrial energy efficiency and pollution prevention technologies. DOE's Golden Field Office coordinates requests and identifies the laboratory with the best resources to respond to the partner's technical inquiry. Since funding for this activity is limited, not all requests will be granted. Priority is given to companies that fall within ten industries of strategic importance to Climate Wise; aluminum, chemicals, forest products, glass, metalcasting, steel, refining, metal finishing, printing, and food processing. For further information about the Virtual Lab, please contact Pat Schassburger, DOE Golden Field Office at (303) 275-4795.

DOE provides a number of other avenues that allow businesses of all sizes to take advantage of and develop relationships with the National laboratories. Each lab offers a number of programs targeted toward transfer of technology to the private sector. The following programs are available from all of the labs, with some variations in the program names and application processes.

Companies are invited to contact each lab directly to receive further information about these and other programs:

- **CRADAs:** Under a Cooperative Research and Development Agreement (CRADA) both parties contribute to the cost of research. Your company may elect to retain ownership in any resulting intellectual property it develops. For intellectual property developed by the National laboratory under the CRADA, your company has the right to negotiate an exclusive license within a limited field of use with reasonable compensation to the laboratory. Your company may either provide funding for work at the National lab or make an “in-kind” contribution to the CRADA. Proprietary information remains confidential, and results of the CRADA work can be protected from disclosure for a period of up to five years after the completion of the work.
- **Work for Others:** Work for others is DOE’s term for research and development where full costs are paid entirely by a non-DOE entity, such as a company, and the work is conducted by the National laboratory. When a company contracts with a lab to perform, Work for Others, the commercial rights to intellectual property belong to the company, and research results may be kept proprietary.
- **Licensing:** Licensing provides companies with opportunities to acquire exclusive or non-exclusive rights to DOE-owned inventions and software in order to develop them into marketable products and processes. Often licensing is done as part of a CRADA or Work for Others contract.
- **Quick Response Mechanisms:** Quick response mechanisms include several types of agreements designed to facilitate work that is short-term or requires a rapid turnaround time, including personnel exchanges and technical consulting where a National laboratory’s unique expertise is needed and the development of intellectual property is unlikely.

Department of Energy National Laboratory Contacts

Ames Laboratory

Todd Zdorkowski
Iowa State University
Room 326, TASF
Ames, IA 50011
Phone: (515) 294-5640
Fax: (515) 294-3751
E-mail: zdorkowski@ameslab.gov

Argonne National Laboratory

Richard Combs
9700 South Cass Avenue
Argonne, IL 60439
Phone: (708) 252-6797
Fax: (708) 252-3679
E-mail: wigell.otd@mhs201.otd.anl.gov

Brookhaven National Laboratory

Peg Bogosion
P. O. Box 5000
Building 460
Upton, NY 11973-5000
Phone: (516) 344-7338
Fax: (516) 344-5803

DOE Savannah River

Judy Bostock
Office of Community Outreach
P. O. Box A
Aiken, SC 29802
Phone: (803) 725-3821
Fax: (803) 725-5968

Fermi National Accelerator Laboratory

John Venard
P. O. Box 500, MS-200
Batavia, IL 60510
Phone: (630) 840-2529
Fax: (630) 840-8752
E-mail: venard@fnal.gov

David Gassman, Legal Dept.
P. O. Box 500, MS-213
Batavia, IL 60510
Phone: (630) 840-3572
Fax: (630) 840-8390

Idaho National Engineering and Environmental Laboratory

Doug Mohr
P. O. Box 1625
Idaho Falls, ID 83415-3805
Phone: (208) 526-1492
Fax: (208) 526-7146
E-mail: hdm@inel.gov

Lawrence Livermore National Lab

Cory Coll
P. O. Box 808, L-159
Livermore, CA 94550
Phone: (510) 422-2103
Fax: (510) 423-7354
E-mail: coll1@llnl.gov

Lawrence Berkeley Laboratory

Rick Inada
Technology Transfer Department
One Cyclotron Road, MS-90-1070
Berkeley, CA 94720
Phone: (510) 486-5882
Fax: (510) 486-4386
E-mail: rminada@lbl.gov

Los Alamos National Laboratory

Al Busch (Non-Fed)
P. O. Box 1663, MS F655
Los Alamos, NM 87545
Phone: (505) 665-3922
Fax: (505) 665-6127

National Renewable Energy Laboratory

Ken Algiene
Building 17-3
1617 Cole Boulevard
Golden, CO 80401
Phone: (303) 275-3017
Fax: (303) 275-3040
E-mail: ken_algiene@nrel.gov

Oak Ridge Center for Manufacturing Technology

James S. Morris
P. O. Box 2009
Oak Ridge, TN 37831-8084
Phone: (800) 356-4USA
Fax: (423) 576-5925

Oak Ridge National Laboratory

Edward B. Harris
P. O. Box 2003
Oak Ridge, TN 37831-7617
Phone: (423) 574-9931
Fax: (423) 576-7192

Oak Ridge Y-12 Plant

James S. Morris
P. O. Box 2009
Oak Ridge, TN 37831-8084
Phone: (800) 356-4USA
Fax: (423) 576-5925
E-mail: 4USA@ornl.gov

Pacific Northwest National Laboratory

Bruce Simanton
P. O. Box 999, MS-K8-50
Richland, WA 99352
Phone: (509) 375-6407
Fax: (509) 375-3687

Princeton University Plasma Physics Laboratory

Lew Meixler
P. O. Box 451
Princeton, NJ 08543
Phone: (609) 243-3009
Fax: (609) 243-2800
E-mail: lmeixler@pppl.gov

Sandia National Laboratories

Bill Lovejoy
P. O. Box 5800, MS 0163
Albuquerque, NM 87185
Phone: (505) 844-3911
Fax: (505) 844-0884
E-mail: wclovj@sandia.gov

Mary Monson
P. O. Box 5800
Albuquerque, NM 87185
Phone: (505) 843-4183
Fax: (505) 843-4175

Stanford Linear Accelerator Center

Dick Freundling
P. O. Box 4349
Stanford, CA 94309
Phone: (415) 926-2211
Fax: (415) 926-4999

Manufacturing Extension Partnership (MEP)

OBJECTIVE:	To provide a National network of services to assist small manufacturing establishments adopt modern technologies and business practices
ELIGIBILITY:	Manufacturing firms with fewer than 500 employees.
COST:	Fee structures for client firms vary depending on the service(s) requested and the center that is involved.
SERVICES:	Technical assistance for improving productivity and efficiency

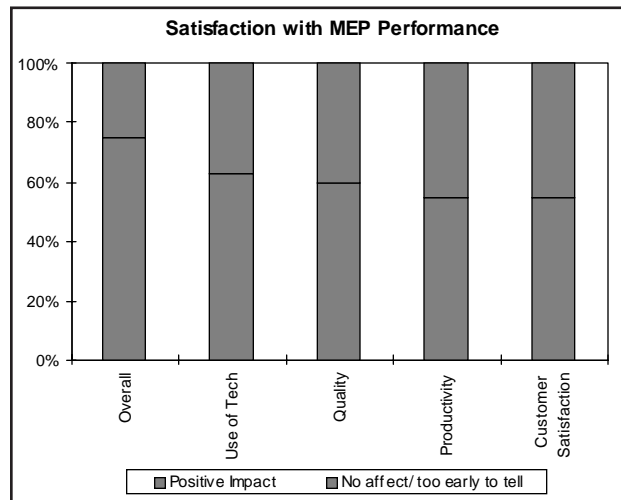
The **Manufacturing Extension Partnership (MEP)** links Federal support with State and local organizations to assist small manufacturers in adopting modern technologies and business practices that help increase their competitive ability in the global marketplace. The goal of the MEP is to provide smaller firms, who are unable to realize their full potential because of a lack of access to technological resources, an upper hand in this environment.

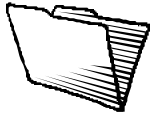
MEP services include helping businesses assess their technology and business needs, developing specific improvements to increase productivity, and providing guidance with manufacturing processes, worker training, personnel, marketing, financing, and quality issues. Some centers also offer demonstrations of new technologies. MEP staff work individually with manufacturers, as well as with groups of manufacturers who share common needs. Each center's

assistance programs vary according to the needs of the region's manufacturing base, but each is connected electronically to a National network, allowing access to a nationwide pool of knowledge, services and technology.

In 1994, agents from the 28 then active MEP centers provided services or made visits to more than 15,000 companies. The centers offered training and educational services to employees and managers representing an additional 5,000 firms. The real success of MEPs is demonstrated by the successes of the average company after working with a MEP center:

- 5.5 jobs added or saved;
- increases of \$370,000 in sales;
- \$43,000 reduction in labor and materials costs.





For more information, contact:

The Manufacturing Extension Partnership

Building 301, Room C121

National Institute of Standards and Technology

Gaithersburg, MD 20899-0001

Phone: (301) 975-5020

Fax: (301) 963-6556

E-mail: mepinfo@micf.nist.gov

Web: <http://www.mep.nist.gov>

Or contact your local center directly using the following directory.

Manufacturing Extension Partnership Office Locations



Manufacturing Extension Center Directory

Alabama

Alabama Technology Network

Alaska

Alaska Manufacturing
Extension Partnership

Arizona

Industry Network Corporation
(INC)

Arkansas

Arkansas Manufacturing
Extension Network

California

California Manufacturing
Technology Center (CMTC)

The Corporation for
Manufacturing Excellence
(Manex)

San Diego Manufacturing
Extension Center, Inc.

Colorado

Mid-America Manufacturing
Technology Center
(MAMTC)

Connecticut

Connecticut State Technology
Extension Program (CONN/
STEP)

Delaware

Delaware Manufacturing
Alliance

Florida

Florida Manufacturing
Extension Partnership

Georgia

Georgia Manufacturing
Extension Alliance

Hawaii

Hawaii Manufacturing
Extension Center

Idaho

Idaho Manufacturing Alliance

Illinois

Chicago Manufacturing
Center

Illinois Manufacturing Center

Indiana

Indiana Business
Modernization and
Technology Corporation
(Indiana BMT)

Iowa

Iowa Manufacturing
Technology Center (Iowa
MTC)

Kansas

Mid-America Manufacturing
Technology Center
(MAMTC)

Kentucky

Kentucky Technology Service

Louisiana

Louisiana Manufacturers
Technical Extension Center

Maine

Maine Manufacturing
Extension Partnership

Maryland

Maryland Technology
Extension Service (MTES)

Massachusetts

Massachusetts Manufacturing
Partnership (MMP)

Michigan

Michigan Manufacturing
Technology Center (MMTC)

Minnesota

Minnesota Manufacturing
Technology Center (MnMTC)

Mississippi

Mississippi Polymer Institute
(MPI) and Pilot
Manufacturing Extension
Center (PMEC)

Mississippi Technology
Extension Partnership

Missouri

Mid-America Manufacturing
Technology Center
(MAMTC)

MAMTC Missouri Rolla
Regional Office

Montana

Montana Manufacturing
Extension Center

Nebraska

Nebraska Industrial
Competitiveness Service
(NICS)

Nevada

Nevada Manufacturing
Extension Partnership

New Hampshire

New Hampshire Regional
Manufacturing Technology
Center

New Jersey

New Jersey Manufacturing
Extension Partnership

New Mexico

Industry Network Corporation

New York

New York Manufacturing
Extension Partnership (New
York MEP)

Alliance for Manufacturing
and Technology (AM&T)

Center for Economic Growth

Central New York TDO

CI-TEC

High Technology of Rochester

Hudson Valley Technology
Development Center
(HVTDC)

Industrial Technology
Assistance Corporation (ITAC)

Long Island Forum for
Technology (LIFT)

Mohawk Valley Applied
Technology Commission

Western New York
Technology Development
Center

North Carolina

North Carolina
Manufacturing Extension
Partnership

North Dakota

North Dakota Manufacturing
Technology Partnership
(NDMTP)

Ohio

Great Lakes Manufacturing
Technology Center (GLMTC)

Miami Valley Manufacturing
Extension Center

Lake Erie Manufacturing
Extension Partnership

Plastics Technology
Deployment Center (PTDC)

Oklahoma

Oklahoma Alliance for
Manufacturing Excellence

Oregon

Oregon Manufacturing
Extension Partnership

Pennsylvania

North/East Pennsylvania
Manufacturing Extension
Partnership and
Manufacturers Resource
Center (MRC)

Southeastern Pennsylvania
Manufacturing Extension
Partnership, Delaware Valley
Industrial Resource Center
(DVIRC), and Manufacturing
Technology Industrial
Resource Center (MANTC)

Industrial Modernization
Center (IMC) and
Northeastern Pennsylvania
Industrial Resource Center
(NEPIRC)

Southwestern Pennsylvania
Industrial Resource Center
(SPIRC)

Great Lakes Manufacturing
Technology Center

Plastics Technology
Deployment Center

Puerto Rico

Puerto Rico Manufacturing
Extension, Inc (PRIMEX)

Rhode Island

Rhode Island Manufacturing
Extension Services

South Carolina

Southeast Manufacturing
Technology Center (SMTC)

South Dakota

South Dakota Manufacturing
Extension Partnership Center

Tennessee

Tennessee Manufacturing
Extension Partnership

Texas

Texas Manufacturing
Assistance Center

Utah

Utah Manufacturing
Extension Partnership

Vermont

Vermont Manufacturing
Extension Center

Virginia

A.L. Philpott Manufacturing
Center

Washington

Washington Manufacturing
Extension Partnership

West Virginia

West Virginia Partnership for
Industrial Modernization

Wisconsin

Northwest Wisconsin
Manufacturing Outreach
Center (NWMOC)

Wisconsin Manufacturing
Extension Partnership

Wyoming

MAMTC Wyoming Reg. Ofc.

National

National Center for Printing,
Publishing and Imaging

National Metal Finishing
Resource Center (NMFRC)

National Technology Transfer Network

OBJECTIVE:	To disseminate technology and information findings
ELIGIBILITY:	Any U.S. company
COST:	No initial cost for service
SERVICES:	Guarantees commercial loans of up to \$750,000

The National Technology Transfer Network (NTTN)



The NTTN is a NASA-funded program that provides access to the National network of research facilities as a one-stop-shop for technology transfer, licensing, technical assistance, and other business assistance programs. At the center of the program is the National Technology Transfer Network. The NTTN acts as a clearinghouse of information, and is augmented by six Regional Technology Transfer Centers (RTTCs). Programs offered by the NTTC are outlined below. The RTTCs offer additional commercialization and business management services.

The National Technology Transfer Center (NTTC)



NTTC is the hub of a National network established by Congress to link U.S. companies with Federal laboratories to turn Government research results into practical, commercially-relevant technology. The Center's free Gateway Service, staffed by specialists in biology, physics, chemistry, computer sciences, and the various branches of engineering, provides private sector callers with person-to-person contacts in the Federal laboratory system. NTTC technology agents have facilitated requests in a wide range of areas including: materials, computer and information systems, biotechnology, agriculture, transportation, energy and environmental innovations, electronics, and defense-related R & D with commercial applications.

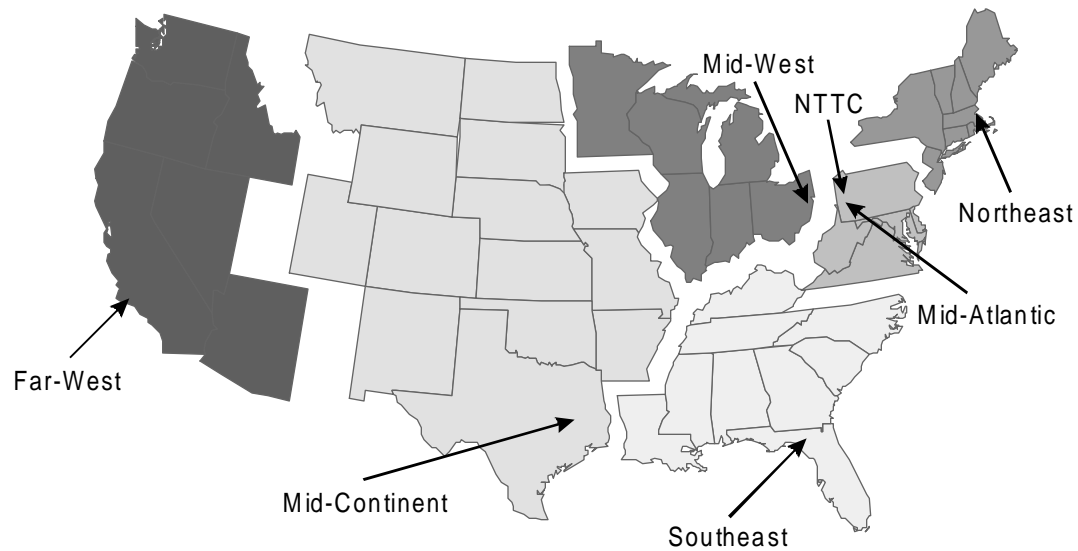
The center also conducts National outreach and promotional activities to improve U.S. private sector awareness of technology transfer resources and opportunities. NTTC assists Federal laboratories in finding partners to develop and commercialize new technologies. The Center works closely with the Federal Laboratory Consortium, Federal, State and local economic development authorities, academia, companies and industry associations, and makes referrals to the six RTTCs, which assist companies with customized services for licensing and other commercialization areas.



To contact the NTTC:

The NTTC's Gateway Service operates between 8:30 am and 5:00 pm, EST at 800-678-6882.

Regional Technology Transfer Centers (RTTC)



J. Ronald Thornton, Director
 Southern Technology Application Center
 University of Florida,
 College of Engineering
 Box 24
 One Progress Boulevard
 Alachua, FL 32615
Phone: (904) 462-3913

Lani S. Hummel, Director
 Mid-Atlantic RTTC
 University of Pittsburgh
 823 William Pitt Union
 Pittsburgh, PA 15260
Phone: (412) 648-7000
Fax: (412) 648-7003

Dr. William Gasko, Director
 Center for Technology Commercialization
 Massachusetts Technology Park
 100 North Drive
 Westborough, MA 01581
Phone: (508) 870-0042

Gary Sera, Director
 Mid-Continent Technology Transfer Center
 (MCTTC)
 The Texas A&M University System
 College Station, TX 77843-3401
Phone: (800) 472-6785
Phone: (409) 845-8762
Fax: (409) 845-3559

Chris Coburn, Director
 Great Lakes Technology Transfer Center
 25000 Great Northern Corporate Center
 Suite 260
 Cleveland, OH 44070-5310
Phone: (216) 734-0094
Web: <http://www.battelle.org/glitec>

Robert L. Stark, Director
 University of Southern California
 3716 South Hope Street, Suite 200
 Los Angeles, CA 90007-4344
Phone: (213) 743-6132
Fax: (213) 746-9043

Small Business Development Centers

OBJECTIVE:	To provide information to existing and prospective small business owners and operators
ELIGIBILITY:	Existing or prospective small business owners and operators, entrepreneurs, or persons interested in exploring small business activity
COST:	Initial consultations are generally free; charges may be levied for additional services
SERVICES:	Business and management counseling, training, and technical assistance

The Small Business Administration (SBA) created the **Small Business Development Center** network in 1977 to offer company owners and prospective entrepreneurs the opportunity to obtain information relevant to small business activities. There are 56 lead SBDCs, and nearly 1,000 satellite locations. They serve as one-stop service centers, providing small businesses with a wide variety of information and assistance. SBDC services include, but are not limited to, assisting small businesses with:

- Financial issues
- Marketing
- Production
- Organization
- Engineering
- Feasibility studies
- Solutions to technical problems

Special SBDC programs and economic development activities include international trade assistance, technical assistance, procurement assistance, venture capital formation, and rural development.

Because each center serves only a limited area, its staff can design and administer programs to address specific needs of the local business base. The typical SBDC operates with a small staff including a director, full and part-time assistance experts, and volunteers. Centers also use paid consultants, consulting engineers, and testing laboratories to help clients needing specialized expertise.

SBDCs make special efforts to reach members of socially and economically disadvantaged groups, veterans, women, and the disabled. Assistance is provided to any current and prospective owners who could not otherwise afford the services of a private consultant.



To contact the SBA:

SBA has offices located throughout the country. To obtain a listing of offices in your State, call SBA at 1-800-U-ASK-SBA, or consult the following phone directory.

Telephone Guide for SBA Small Business Development Centers

University of Alabama, Birmingham, AL	(205) 934-7260
University of Alaska/Anchorage, Anchorage, AK	(907) 274-7232
Maricopa County Community College, Tempe, AZ	(602) 731-8202
University of Arkansas, Little Rock, AR	(501) 324-9043
California Trade and Commerce Agency, Sacramento, CA	(916) 324-5068
Office of Business Development, Denver, CO	(303) 892-3809
University of Connecticut, Storrs, CT	(203) 486-4135
University of Delaware, Newark, DE	(302) 831-2747
Howard University, Washington, DC	(202) 806-1550
University of West Florida, Pensacola, FL	(904) 444-2060
University of Georgia, Athens, GA	(706) 542-6762
University of Hawaii at Hilo, Hilo, HI	(808) 933-3515
Boise State University, Boise, ID	(208) 385-1640
Dept. of Commerce & Community Affairs, Springfield, IL	(207) 524-5856
Economic Dev. Council, Indianapolis, IN	(317) 264-6871
Iowa State University, Ames, IA	(515) 292-6351
Wichita State University, Wichita, KS	(316) 689-3193
University of Kentucky, Lexington, KY	(606) 257-7668
Northeast Louisiana University, Monroe, LA	(318) 342-5506
University of Southern Maine, Portland, ME	(207) 780-4420
University of Maryland, College Park, MD	(301) 405-2147
University of Massachusetts, Amherst, MA	(413) 545-6301
Wayne State University, Detroit, MI	(313) 577-4848
Dept. of Trade and Economic Development St. Paul, MN	(612) 297-5770
University of Mississippi, University, MS	(601) 232-5001
University of Missouri, Columbia, MO	(314) 882-0344
Department of Commerce, Helena, MT	(406) 444-4780
University of Nebraska at Omaha, Omaha, NE	(402) 554-2521
University of Nevada in Reno, Reno, NV	(702) 784-1717
University of New Hampshire, Durham, NH	(603) 862-2200
Rutgers University, Newark, NJ	(201) 648-5950
Santa Fe Community College, Santa Fe, NM	(505) 438-1362
State University of New York, Albany, NY	(518) 443-5398
University of North Carolina, Raleigh, NC	(919) 571-4154
University of North Dakota, Grand Forks, ND	(701) 77-3700
Dept. of Development, Columbus, OH	(614) 466-2711
S.E. Oklahoma State University, Durant, OK	(405) 924-0277
Lane Community College, Eugene, OR	(503) 726-2250
University of Pennsylvania, Philadelphia, PA	(215) 898-1219
Inter American University, Hato Rey, PR	(787) 763-5108
Bryant College, Springfield, RI	(401) 232-6111
University of South Carolina, Columbia, SC	(803) 777-4907
University of South Dakota, Vermillion, SD	(605) 677-5498
University of Memphis, Memphis, TN	(901) 678-2500
Dallas Community College, Dallas, TX	(214) 565-5833
University of Houston, Houston, TX	(713) 752-8444
Texas Tech University, Lubbock, TX	(806) 745-3973
University of Texas at San Antonio, San Antonio, TX	(210) 558-2450
Salt Lake City Community College, Salt Lake City, UT	(801) 957-3481
Vermont Technical College, Randolph Center, VT	(802) 728-9101
University of the Virgin Islands, St. Thomas, US VI	(809) 776-3206
Dept. of Economic Development, Richmond, VA	(804) 371-8258
Washington State University, Pullman, WA	(509) 335-1576
Governor's Office of Community and Industrial Development, Charleston, WV	(304) 558-2960
University of Wisconsin, Madison, WI	(608) 263-7794
University of Wyoming, Laramie, WY	(307) 766-3505

SBA 7(a) Loan Programs

Objective:	To provide loan guarantees to creditworthy small businesses unable to obtain financing from private lenders
Eligibility:	Small, independently-owned businesses that are not dominant in their fields. Size limitations vary by SIC code (generally at fewer than 500 employees)
Cost:	Vary with size and maturity of loan. Guarantee fees start at 2% of principle, interest starts at 225 basis points over the Prime Rate.
Services:	Guarantees commercial loans of up to \$750,000

SBA 7(a) Loan Guarantee Program Overview

The Small Business Administration's Section 7(a) Loan Guarantee program helps meet the financing needs of creditworthy small businesses, including manufacturers, that are unable to obtain traditional commercial loans. The 7(a) program attempts to expand credit availability to small, new, or under collateralized companies by reducing the risk of traditional lenders.

Toward this end, SBA offers loan guarantees of up to 80% of principle on loans of up to \$100,000, and up to 75% of principle of loans above \$100,000. The maximum amount of the guaranteed portion of the loan is generally capped at \$750,000 (on a \$1,000,000 loan). Maturities are capped at 25 years for loans used for real estate and equipment, and seven years for working capital loans.

In all 7(a) loan programs, SBA puts primary emphasis on sufficient cash flow to repay the loan when considering applications. Also important are good character, management capability, collateral, and the equity contributions of owners holding 20% or more of the company.

Eligibility

While most small businesses are eligible for consideration, loans are limited by several additional criteria, including the type and size of the business, use of the funds provided by the loan, and other special circumstances.

Excluded businesses include real estate investment and other speculative companies including Real Estate Investment Trusts (REITs), wildcatters, and junior exploration companies; academic, charitable, and religious institutions; lending organizations; pyramid schemes; and companies engaged in illegal or gambling-related activities.

While size constraints for SBA loans are specific to SIC codes, they adhere *in general* to the following table:

Industry	Maximum Size
Retail and Service	\$3.5 to \$13.5 million
Construction	\$7 to \$17 million
Agriculture	\$.5 to \$3.5 million
Wholesale	No more than 100 employees
Manufacturing	500 to 1,500 employees

Certain restrictions apply to what the loans may be used for. SBA loans *cannot* be used to:

- finance floor plan needs;
- purchase real estate where the participant has issued a forward commitment to the builder/developer, or where the real estate will be held primarily for investment purposes;
- to make payments to owners or pay delinquent withholding taxes;
- to pay existing debt unless refinancing will benefit the small business, and where the need to refinance is not indicative of imprudent management.

Certain other restrictions may apply to franchises, recreational facilities and clubs, farms, fishing vessels, holding companies, and medical facilities.

Fees and Interest

SBA charges commercial lenders a guaranty and servicing fee for 7(a) loans, which may be passed on to the borrower once paid to SBA by the lender. These fees are determined by the size of the guaranteed portion of the loan, according to the following schedule:

Loan Amount	Guarantee Fee
Less than \$80,000	2%
More than \$80,000 but under \$250,000	3%
Amounts over \$250,000	\$7,500 plus 3.5% of amount over \$250,000
Amounts over \$500,000	\$16,250 plus 3.875% of amount over \$500,000

In addition, an annual .5% servicing fee is applied to the outstanding guaranteed balance.

Interest Rates

While interest rates are negotiated between the borrower and the lender, they are subject to maximum rates set by SBA, and vary with the amount of the loan and its maturity. Fixed rate loans are capped at 2.25% to 4.75% over prime, and are determined by this table:

	Less than \$25,000	\$25,000-\$50,000	More than \$50,000
Less than 7 years	4.25%	3.25%	2.25%
7 years or more	4.75%	3.75%	2.75%

Specialized 7(a) Loan Programs

SBA also offers a number of specialized or targeted programs, including the LowDoc, FA\$TRACK, CAPLines, Pollution Control, DELTA, Minority and Women's Prequal, and MicroLoan programs.

The **LowDoc** and **FA\$TRACK** loans are designed to expedite the loan application process for loans under \$100,000. LowDoc loans offer a simple one-page application form (included in this section), and are usually processed within 2 to 3 days by SBA. Credit history and character are the principle factors in loan consideration. Interest rates and fees are the same as those for general 7(a) loans. FA\$TRACK is a pilot program which authorizes certain lenders to use their existing documentation and procedures to make and service a SBA guaranteed loan. There are no additional forms, and no waiting for SBA approval.

The **CAPLines** program is the umbrella for five short-term working capital loan programs:

- **Seasonal Line:** An advance against future inventory and accounts receivable help during peak seasonal fluctuations.
- **Contract Line:** Finances direct labor and material costs associated with performing assignable contract(s)
- **Builder's Line:** For small general contractor or renovator, building projects may serve as collateral for loans covering direct labor and material costs.
- **Standard and Small Asset-Based Lines:** Offer revolving credit to companies backed by short-term assets.

The maximum maturity for a CAPLine is 5 years. Interest rates are capped on such loans at 225 basis points over the prime rate, and annual servicing fees are capped at 2% (except for the standard asset based lines, which may be higher).

Pollution Control loans are intended to finance the planning, design, or installation of pollution control facilities. These facilities must prevent, reduce, abate, or control any form of pollution, and include recycling facilities. SBA will guarantee up to \$1,000,000 in principal for such loans.

The **DELTA** program is jointly sponsored by SBA and the Department of Defense. It provides loans of up to \$1.25 million for defense-dependent firms adversely affected by defense cutbacks. The loans must be used to further one of three objectives: job retention, job creation, or plant retooling/expansion.

The **Minority** and **Women's Prequalification** loan programs are pilots using intermediaries to aid minorities and women in effort to develop viable loan application packages. Such applications are then submitted directly to SBA which, if it approves the loan (usually within three days), issues a letter of Prequalification stating SBA's intent to guarantee the loan. Under both programs, SBA will generally guarantee 90% of loans up to \$250,000. (Forms for application are included in this section.)

The **MicroLoan** program offers very small loans to businesses through private not-for-profit organizations. Loans are made in amounts ranging from under \$100 to a maximum of \$25,000. The average loan size is \$10,000.



For more information, contact the SBA at:

1-800-U-ASK-SBA

Or one of the following regional offices:

Chicago Regional Office

500 W. Madison St.
Chicago, IL 60661-2511
Phone: (312) 353-5000
Fax: (312) 353-3426

Chicago District Office

500 W. Madison St.
Chicago, IL 60661-2511
Phone: (312) 353-4528
Fax: (312) 886-5688

Cincinnati Branch Office

525 Vine St.
Cincinnati, OH 45202
Phone: (513) 684-2814
Fax: (513) 684-3251

Cleveland District Office

1111 Superior Ave.
Cleveland, OH 44114-2507
Phone: (216) 522-4180
Fax: (216) 522-2038

Columbus District Office

2 Nationwide Plaza
Columbus, OH 43215-2592
Phone: (614) 469-6860
Fax: (614) 469-2391

Detroit District Office

477 Michigan Ave.
Detroit, MI 48226
Phone: (313) 226-6075
Fax: (313) 226-4769

Indianapolis District Office

429 N. Pennsylvania
Indianapolis, IN 46204-1873
Phone: (317) 226-7272
Fax: (317) 226-7259

Madison District Office

212 E. Washington Ave.
Madison, WI 53703
Phone: (608) 264-5261
Fax: (608) 264-5541

Marquette Branch Office

501 S. Front St.
Marquette, MI 49855
Phone: (906) 225-1108
Fax: (906) 225-1109

Milwaukee Branch Office

310 W. Wisconsin Ave.
Milwaukee, WI 53203
Phone: (414) 297-3941
Fax: (414) 297-1377

Minneapolis District Office

100 N. 6TH St.
Minneapolis, MN 55403
Phone: (612) 370-2324
Fax: (612) 370-2303

Springfield Branch Office

511 W. Capitol Ave.
Springfield, IL 62704
Phone: (217) 492-4416
Fax: (217) 492-4867

It is also possible to arrange SBA loans through commercial banks and other lenders. The following table lists the top three SBA lending institutions in each area State by dollar amount of SBA 7(a) loans as of June 1996.

Bank Name	Location	Amt. Loaned	# of Loans	Size (\$)
First of Amer. Bk-IL NA	Bannockburn, IL	\$276 million	14,645	1B-10B
First Midwest Bk NA	Moline, IL	\$214 million	5,208	1B-10B
Mid City NB Of Chicago	Chicago, IL	\$195 million	2,347	500M-1B
NBD Bk NA	Indianapolis, IN	\$381 million	7,499	1B-10B
1st Source Bk	South Bend, IN	\$208 million	3,704	1B-10B
National City Bk IN	Indianapolis, IN	\$192 million	4,197	1B-10B
Norwest Bk IA NA	Des Moines, IA	\$210 million	7,124	1B-10B
Firststar Bk IA NA	Des Moines, IA	\$194 million	8,268	1B- 10B
Brenton Bk	Des Moines, IA	\$75 million	2,300	1B-10B
NBD BK	Detroit, MI	\$694 million	9,989	> 10B
First of Amer. Bk-MI NA	Grand Rapids, MI	\$660 million	36,168	> 10B
Comerica Bk	Detroit, MI	\$635 million	15,937	> 10B
Norwest Bk MN NA	Minneapolis, MN	\$530 million	9,744	> 10B
First Bk NA	Minneapolis, MN	\$411 million	12,462	> 10B
Norwest Bk MN South NA	Rochester, MN	\$163 million	5,773	1B- 10B
Magna Bk NA	Saint Louis, MO	\$384 million	12,344	1B- 10B
Boatmens NB of St. Louis	Saint Louis, MO	\$215 million	5,933	> 10B
Commerce Bk NA	Kansas City, MO	\$186 million	8,010	1B- 10B
Keybank Nat. Assn.	Cleveland, OH	\$1.7 billion	20,641	> 10B
Huntington NB	Columbus, OH	\$610 million	18,101	> 10B
Star Bk NA	Cincinnati, OH	\$372 million	8,252	1B- 10B
Firststar Bk WI	Madison, WI	\$4101 million	12,671	1B- 10B
Firststar Bk Milwaukee NA	Milwaukee, WI	\$186 million	10,395	1B- 10B
M&I Madison Bk	Madison, WI	\$137 million	2,611	1B- 10B

Directory of Certified and Preferred Banks by State

** Indicates PLP Participant*

Illinois

Addison	Oxford Bank and Trust
Aurora	*Merchants Bank of Aurora
Aurora	*Old 2nd Nat. Bank of Aurora
Belleville	Magna Bank of Illinois
Bellwood	The Bank of Bellwood
Blue Island	1st Nat. Bank of Blue Island
Chicago	Albany Bank and Trust Co.
Chicago	American Nat. Bank & Trust
Chicago	*First Nat. Bank of Chicago
Chicago	*Foster Bank
Chicago	*Harris Trust & Savings Bank
Chicago	The Money Store
Chicago	*Pioneer Bank and Trust Co.
Chicago	*South Central Bank & Trust
Chicago	*South Shore Bank of Chicago
Decatur	Soy Capital Bank & Trust Co.
Danville	Palmer American Nat. Bank
Evergreen Pk.	ITT Small Bus. Finance Corp.
Elgin	*Union National Bank & Trust
Fairview Hts.	*Central Bank
Fairview Hts.	*Colonial Bank
Fairview Hts.	*Elliott State Bank
Fairview Hts.	*Farmers & Merchants Nat. Bank
Fairview Hts.	*First Nat. Bank of Central IL
Fairview Hts.	*First Trust and Savings Bank
Homewood	Bank of Homewood
La Grange	Bank One, Chicago
Lincoln	*State Bank of Lincoln
Maywood	Maywood-Proviso State Bank
Morton Gr.	Comerica Bank - Illinois
Naperville	1st Colonial Bank of DuPage Co.
Naperville	Firststar Bank West, NA
Norridge	Plaza Bank Norridge
O'Fallon	First Bank of Illinois
Park Ridge	First State Bank of Park Ridge
Park Ridge	NBD Park Ridge Bank
Pekin	*First State Bank of Pekin
Rockford	Bank One, Rockford
Roselle	Harris Bank Roselle
Springfield	*First of America Bank-IL
Springfield	Bank One, Springfield
Urbana	*Busey First National Bank
Urbana	Central Illinois Bank
W. Frankfort	*Banterra Bank of W. Frankfort

*** Indicates National PLP Participant*

Indiana

Covington	Bank of Western Indiana
Evansville	Citizens National Bank
Fort Wayne	Fort Wayne National Bank
Fort Wayne	NBD Summit Bank
Indianapolis	Bank One Indianapolis
Indianapolis	Busey Bank
Indianapolis	ITT Small Bus. Finance Corp.
Indianapolis	The Money Store
Indianapolis	National City Bank
Indianapolis	NBD Bank, Indiana
LaPorte	First Citizens Bank, NA
Noblesville	*Huntington National Bank
South Bend	1st Source of Bank South Bend
South Bend	Society National Bank
Whiting	Centier Bank

Iowa

Cedar Rapids	Farmers & Merchants Savings
Cedar Rapids	*Firststar Bank Cedar Rapids
Cedar Rapids	First National Bank
Cedar Rapids	*Norwest Bank Iowa, N.A.
Davenport	*Norwest Bank Iowa, N.A.
DeWitt	First Central State Bank
Dubuque	*Dubuque Bank and Trust Co.
Iowa City	Iowa State Bank and Trust Co.
Jessup	Farmers State Bank
Maquoketa	Maquoketa State Bank
Manchester	Farmers & Merchants Savings
Marion	Farmers State Bank
Waterloo	Homeland Bank, N.A.

Michigan

Bay City	*Chemical Bank - Bay Area
Detroit	Comerica Bank
Flint	Citizens Com. & Savings Bank
Grand Rapids	*Old Kent Bank
Grand Rapids	*United Bank of Michigan
Kalamazoo	First of America Bank-MI, N.A.
Kalamazoo	Old Kent Bank - Southwest
Lansing	*Michigan National Bank
Midland	*Chemical Bank-Midland
Owosso	*Chemical Bank-Key State
Traverse City	*Empire National Bank
Traverse City	Old Kent Bank -Traverse City
Troy	NBD Bank, NA

Missouri

Wichita	Emergent Business Capital, Inc.
Brentwood	Magna Bank of Missouri
Carthage	*Boatman's Bank of SW MO
Clayton	The Money Store
Columbia	Capital Bank of Columbia
Columbia	*Union Planters Bank of Mid-MO
Independence	Standard Bank and Trust Co.
Jefferson City	Exchange National Bank
Jefferson City	*The Central Trust Bank
Joplin	Mercantile Bank and Trust Co.
Kansas City	*Bannister Bank & Trust
Kansas City	Boatmen's First National Bank
Kansas City	*Country Club Bank
Kansas City	*First Nat. Bank of Platte Co.
Kansas City	United Missouri Bank
Springfield	*Boatmen's National Bank
Springfield	*Citizens National Bank
Springfield	*Commerce Bank of Springfield
Springfield	First City National Bank
Springfield	Mercantile Bank of Springfield
St. Louis	Emergent Business Capital, Inc.
St. Louis	Boatmen's National Bank
St. Louis	*G.E. Capital Financing Corp.
St. Louis	ITT Small Bus. Finance Corp.
St. Louis	*Mercantile Bank, St. Louis
St. Louis	United Missouri Bank
Stockton	*Sac River Valley Bank
Washington	Bank of Washington

Ohio

Akron	Bank One, Akron, NA
Akron	First National Bank of Akron
Beachwood	Republic Savings Bank
Bedford Hts.	Bank One, Cleveland
Cincinnati	North Side Bank and Trust Co.
Cincinnati	PNC Bank, Cincinnati
Cleveland	*American National Bank
Cleveland	Society National Bank
Columbus	*Bank One, Columbus, N.A.
Columbus	*The Huntington National Bank
Columbus	National City Bank of Columbus
Columbus	Society Bank
Dayton	Bank One, Dayton, N.A.
Dayton	*National City Bank
Dayton	Society Bank - Dayton area
Dublin	The Money Store Investment Co.
Elyria	Elyria Savings & Trust Nat. Bank
Elyria	Premier Bank and Trust
Lorain	*Lorain National Bank
Newark	The Park National Bank
Piqua	Fifth Third Bank of Western OH
Salineville	The Citizens Banking Company
Toledo	*Mid American National Bank
Toledo	National City Bank, Northwest
Toledo	The Fifth Third Bank of NW OH
Youngstown	Second National Bank of Warren
Zanesville	*First Nat. Bank of Zanesville

Wisconsin

Appleton	American Nat. Bank - Fox Cities
Appleton	F & M Bank - Appleton
Appleton	M&I Fox Valley
Brookfield	The Money Store
Eau Claire	M&I Community State Bank
Fond du Lac	Nat. Exchange Bank and Trust
Grafton	Grafton State Bank
Green Bay	*Associated Bank Green Bay
Green Bay	M&I Bank Northeast
Green Bay	Norwest Bank
Madison	Associated Bank Madison
Madison	*Firststar Bank Wisconsin
Manitowoc	Associated Bank Lakeshore
Manitowoc	1st National Bank in Manitowoc
Milwaukee	*Associated Bank
Milwaukee	*Bank One, Wisconsin
Milwaukee	First Bank, Milwaukee
Milwaukee	*Firststar Bank Milwaukee, N.A.
Milwaukee	M&I Marshall & Ilsley Bank
Milwaukee	Park Bank
Neenah	*Associated Bank, N.A.
Sheboygan	Community Bank
Stevens Point	M&I Mid-State Bank
Sturgeon Bay	Baylake Bank
Wausau	*M&I First American Nat. Bank

Minnesota

Edina	First Bank National Association
Hopkins	*First Bank, N.A.
Minneapolis	*Norwest Bank, Minnesota, NA
Minneapolis	Riverside Bank
Morris	Morris State Bank
Pipestone	First National Bank of Pipestone
St. Anthony	*Firststar Bank of Minnesota, NA
St. Cloud	*First American Bank, NA
St. Cloud	Zapp Bank
St. Paul	*First American Bank Metro
St. Paul	*First Amer. Bank Southwest
St. Paul	*First American Bank West
St. Paul	*First Amer. Bank of Alexandria
St. Paul	*First Amer. Bank of Brainerd
St. Paul	*1st Amer. Bank of Breckenridge
St. Paul	*First Amer. Bank of Detroit Lks.
St. Paul	*First Amer. Bank of Intl. Falls
St. Paul	*First Amer. Bank of Willmar
West St. Paul	*Signal Bank, Inc.
Willmar	*Heritage Bank
Young Amer.	*State Bank of Young America

National

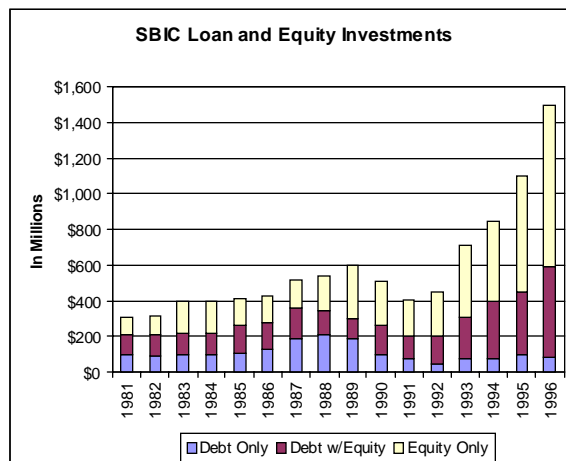
Chicago, IL	**The Money Store Investment Corp.
Sacramento, CA	**The Money Store Investment Corp.
Morristown, NJ	**AT&T Small Lending Corp.
Dallas, TX	**First Western SBLC, Inc.

Small Business Investment Companies

OBJECTIVE:	To provide equity capital, long-term loans, and management assistance to eligible small businesses
ELIGIBILITY:	Small, independently-owned businesses that are not dominant in their fields
COST:	Variable, depending on the policies of the individual SBIC and the situation of the small businesses receiving financing
SERVICES:	Financial assistance in the form of direct loans, guaranteed loans and equity investment, sometimes coupled with advisory services.

Small Business Investment Company Program

The **Small Business Investment Company (SBIC)** program helps independent small businesses gain access to long-term financing and venture capital resources needed to maintain and expand their operations. SBICs are privately held investment firms licensed and regulated by the Small Business Administration (SBA). SBA supports authorized SBICs with Government-backed funds, which in turn are invested in small enterprises. SBICs are controlled by their owners and managers, who make all decisions according to their own policies with regard to investment strategy, size of financing provided, industry preference, and their favored region of activity.



SBICs seek to fill a gap in available financing for small businesses, serving as financier in one of three ways by:

- making direct long-term loans of up to 20 years (independently or in conjunction with other lenders) for working capital and equipment; facility expansion or renovation; product development; or marketing strategy implementation and related activities;
- lending money in exchange for the company's debt securities, which may be convertible into an equity position in the business;
- providing capital through the purchase of company stock or some other type of equity interest.

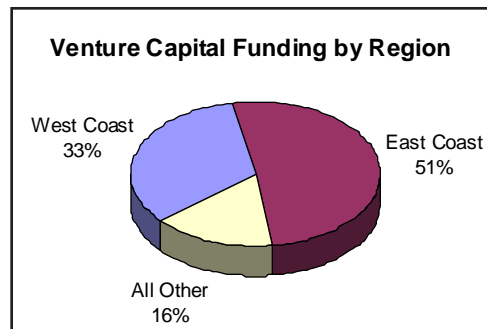
While many venture capital firms may only make investments of several million dollars and up, SBICs concentrate their lending efforts on smaller investments. Studies have shown that every dollar lent by a SBIC to a client firm attracts an average of two dollars from other lenders. Small operations can derive other benefits from a relationship with a SBIC, as the SBA requires all investment companies to provide management expertise and a broad range of business advice that can help insure the success of SBIC clients. SBICs are prohibited from taking control of businesses they help finance.

Specialized Small Business Investment Companies (SSBICs)

SSBICs invest only in companies that are owned by persons who are economically or socially disadvantaged. Generally, the same rules and operating procedures apply, although in return for their specialized focus, SSBICs are offered unique incentives in the form of preferred stock and debentures subsidized by the SBA.

ACE-Net

While SBICs have developed throughout the country, venture capital availability has become largely concentrated on the coasts, leaving the South and Midwest with relatively little coverage (see chart). Many companies have also found that it remains difficult to find funding of less than \$1 million and more than \$250,000. ACE-Net is being developed to provide small companies outside of the geographic scope of many investment companies a method for obtaining equity partners in this funding range. SBA estimates that there are about 250,000 individuals who qualify to use the ACE-Net, and that they currently invest approximately \$20 billion annually across over 30,000 ventures. By listing with the network, companies allow executive summaries of their proposals to be reviewed by such investors.



ACE-Net provides an Internet-based database of firms throughout the country who are seeking financing for projects from venture capital investors. ACE-Net financing is structured as a small corporate offering, falling under either Regulation A or Regulation D, Rule 504 of the Federal securities regulations.

Regulation A allows small corporations to raise up to \$5 million through the sale of corporate securities. Regulation A offerings are required to file a Form U-7 with the SEC, and may be required to submit additional information to the State securities office in which the offering is to take place.

Regulation D, Rule 504 allows corporation to offer up to \$1 million in securities. At the Federal level, Rule 504 registrants must file a Form D, and may have to file a Form U-7 with the relevant State securities office.

ACE-Net will also allow *testing-of-waters* documents to be made available, which allow companies to tentatively disseminate information over the network without prior registration with State and Federal securities regulators.



For more information on the ACE-Net, contact:

Technology Capital Network at MIT

290 Main Street, Lower Level

Cambridge, MA 02142

Phone: (617) 253-8214

Fax: (617) 258-7395

Or through the Small Business Administration home page:

<http://www.sba.gov>

The following list contains Small Business Investment Companies (SBICs) listed by State. Some SBICs may operate in states outside of those in which they are headquartered. Information on investment preferences is provided when available.

Illinois**ABN AMRO Capital (USA) Inc.**

Paul Widuch, Chairman
135 South LaSalle Street
Chicago, IL 60674
Phone: (312) 904-6445
Fax: (312) 904-6376

Continental Illinois Venture Corp.

Christopher J. Perry, President
231 South LaSalle Street
Chicago, IL 60697
Phone: (312) 828-8023
Fax: (312) 987-0887

- *Preferred Investment Size:* \$5 to \$25 Million
- *Investment Policy:* Loans and/or Equity
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

First Chicago Equity Corporation

David J. Vitale, President
Three First National Plaza
Suite 1330
Chicago, IL 60670
Phone: (312) 732-5400
Fax: (312) 732-4098

- *Preferred Investment Size:* \$2 Million and up
- *Investment Policy:* Equity
- *Investment Type:* Expansion, Later Stage, Buyouts
- *Industry Preference:* Diversified
- *Geographic Preference:* National

Heller Equity Capital Corporation

Charles Brisman, Steven Miriani
500 West Monroe Street
Chicago, IL 60661
Phone: (312) 441-7200
Fax: (312) 441-7208

Illinois (con't)**Peterson Finance and Investment Co.**

James S. Rhee, President
3300 West Peterson Avenue, Suite A
Chicago, IL 60659
Phone: (312) 539-0502
Fax: (312) 583-6714

- *Preferred Investment Size:* \$50,000 to \$200,000
- *Investment Policy:* Loans
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

Polestar Capital, Inc.

Wallace Lennox, President
180 N. Michigan Avenue, Suite 1905
Chicago, IL 60601
Phone: (312) 984-9875
Fax: (312) 984-9877

- *Preferred Investment Size:* \$350,000 to \$700,000
- *Investment Policy:* Primarily Equity
- *Investment Type:* Early to Later Stages
- *Industry Preference:* Manufacturing or Proven Technology Areas
- *Geographic Preference:* National

Shorebank Capital Corporation

David Shryock, CEO
7936 S. Cottage Grove Ave.
Chicago, IL 60619
Phone: (773) 371-7030
Fax: (773) 371-7035

- *Preferred Investment Size:* \$100,000 to \$500,000
- *Investment Policy:* Equity and Loans
- *Investment Type:* Early Stage, Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* Mid-West

Illinois (con't)**Walnut Capital Corp.**

Burton W. Kanter, Chairman of the Board
Two North LaSalle Street, Suite 2200
Chicago, IL 60602
Phone: (312) 269-1700
Fax: (312) 269-1747

Indiana**1st Source Capital Corporation**

Eugene L. Cavanaugh, Jr., Vice President
100 North Michigan Street
P.O. Box 1602
South Bend, IN 46601
Phone: (219) 235-2180
Fax: (219) 235-2227

- *Preferred Investment Size:* \$300,000 to \$500,000
- *Investment Policy:* Equity, Debt with Equity
- *Investment Type:* Later Stage, Expansion
- *Industry Preference:* Diversified
- *Geographic Preference:* Midwest

Cambridge Ventures, LP

Ms. Jean Wojtowicz, President
8440 Woodfield Crossing, #315
Indianapolis, IN 46240
Phone: (317) 469-9704
Fax: (317) 469-3926

- *Preferred Investment Size:* \$100,000 to \$750,000
- *Investment Policy:* Subordinate Debt and/or Equity
- *Investment Type:* Expansion, Acquisition
- *Industry Preference:* Diversified, Manufacturing
- *Geographic Preference:* Within 200 miles of Indiana

Iowa**MorAmerica Capital Corporation**

David R. Schroder, President
101 2nd Street, SE
Suite 800
Cedar Rapids, IA 52401
Phone: (319) 363-8249
Fax: (319) 363-9683

- *Preferred Investment Size:* \$750,000 to \$1.3 Million
 - *Investment Policy:* Sub Debt or Pref Stock-Warrants
 - *Investment Type:* Expansion, Later Stage, MBO/LBO Acq.
 - *Industry Preference:* Manufacturing, Service, Retail
 - *Geographic Preference:* National
-

North Dakota**SBIC, L.P.**

David R. Schroder, Manager
101 Second Street SE, Suite 800
Cedar Rapids, IA 52401
Phone: (701) 298-0003
Fax: (701) 293-7819

- *Preferred Investment Size:* \$300,000 to \$600,000
- *Investment Policy:* Sub Debt or Pref Stock-Warrants
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* North Dakota, National

Michigan

Capital Fund, Inc.

Barry Wilson, President
6412 Centurion Drive Suite 150
Lansing, MI 48917
Phone: (517) 323-7772
Fax: (517) 323-1999

- *Preferred Investment Size:* \$200,000 to \$500,000
- *Investment Policy:* Loans
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* Michigan

Dearborn Capital Corp.

Edwin M. Sweda, President
c/o Ford Motor Credit Corporation
The American Road
Dearborn, MI 48121
Phone: (313) 337-8577
Fax: (313) 248-1252

- *Preferred Investment Size:* \$250,000 to \$1 Million
- *Investment Policy:* Loans
- *Investment Type:* Expansion, Later Stage LBO, Acquisition
- *Industry Preference:* Automotive
- *Geographic Preference:* National

Metro-Detroit Investment Company

William J. Fowler, President
30777 Northwestern Highway
Suite 300
Farmington Hill, MI 48334
Phone: (810) 851-6300
Fax: (810) 851-9551

- *Investment Policy:* Loans
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Retail, Food Stores
- *Geographic Preference:* Michigan

Michigan (con't)

Motor Enterprises, Inc.

Mark Fischer, Vice President & Treasurer
NAO Headquarters Bldg. 1-8, Worldwide Pu
30400 Mound Road, Box 9015
Warren, MI 48090
Phone: (810) 986-8420
Fax: (810) 986-6703

- *Preferred Investment Size:* \$100,000 to \$500,000
- *Investment Policy:* Loans
- *Investment Type:* Early Stage, Expansion, Later Stage
- *Industry Preference:* Suppliers to General Motors
- *Geographic Preference:* National

White Pines Capital Corporation

Mr. Ian Bund, President
2929 Plymouth Road, Suite 210
Ann Arbor, MI 48105
Phone: (313) 747-9401
Fax: (313) 747-9704

- *Preferred Investment Size:* \$350,000 to \$1 Million
- *Investment Policy:* Conv Pref Stock, Debt w/ Equity
- *Investment Type:* Expansion
- *Industry Preference:* Manufacturing (Niche or Speciality Mkts.) Value Added
- *Geographic Preference:* Midwest, Southeast

Minnesota

Agio Capital Partners I, L.P.

Kenneth F. Gudorf, President & CEO
First Bank Place, Suite 4600
601 Second Avenue - South
Minneapolis, MN 55402
Phone: (612) 339-8408
Fax: (612) 349-4232

- *Preferred Investment Size:* \$1 to \$3 Million
- *Investment Policy:* Equity
- *Investment Type:* Growth, Expansion, Later Stage

Minnesota (con't)**Capital Dimensions Ventures Fund, Inc.**

Dean R. Pickerell, President
Two Appletree Square, Suite 335
Minneapolis, MN 55425
Phone: (612) 854-3007
Fax: (612) 854-6657

- *Preferred Investment Size:* \$200,000 to \$2 Million
- *Investment Policy:* Debt and/or Equity
- *Investment Type:* Early Stage, Expansion
- *Industry Preference:* Communications and Technology
- *Geographic Preference:* National

Milestone Growth Fund, Inc.

Esperanza Guerrero, President
401 Second Avenue South, Suite 1032
Minneapolis, MN 55401
Phone: (612) 338-0090
Fax: (612) 338-1172

- *Preferred Investment Size:* \$150,000
- *Investment Policy:* Loans, Loans with Warrants
- *Investment Type:* Expansion, Early Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

Norwest Equity Partners IV

Robert F. Zicarelli, General Partner
2800 Piper Jaffray Tower
222 South Ninth Street
Minneapolis, MN 55402
Phone: (612) 667-1650
Fax: (612) 667-1660

Norwest Equity Partners V, L.P.

John F. Whaley, Manager
2800 Piper Jaffrey Tower
Minneapolis, MN 55402
Phone: (612) 667-1667
Fax: (612) 667-1660

- *Preferred Investment Size:* \$3 to \$15 Million
- *Investment Policy:* Equity
- *Investment Type:* Start-Up, Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

Minnesota (con't)**Piper Jaffray Healthcare Capital L.P.**

Lloyd (Buzz) Benson, Manager
222 South 9th Street
Minneapolis, MN 55402
Phone: (612) 342-6335
Fax: (612) 342-1036

- *Preferred Investment Size:* \$750,000 to \$1.5 Million
- *Investment Policy:* Equity Only
- *Investment Type:* Early Stage, Later Stage, Expansion
- *Industry Preference:* Medical/ Healthcare
- *Geographic Preference:* National

Missouri**Bankers Capital Corp.**

Raymond E. Glasnapp, President
3100 Gillham Road
Kansas City, MO 64109
Phone: (816) 531-1600
Fax: (816) 531-1334

- *Preferred Investment Size:* \$100,000
- *Investment Policy:* Loans and/or Equity
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* Mid-West

CFB Venture Fund II, LP

James F. O'Donnell, Chairman
11 South Meramec, Suite 1430
St. Louis, MO 63105
Phone: (314) 746-7427
Fax: (314) 746-8739

- *Preferred Investment Size:* \$500,000 to \$3 Million
- *Investment Policy:* Debt w/Warrants Preferred Stock
- *Investment Type:* Expansion, Later Stage, MBO/LBO/Acq.
- *Industry Preference:* Diversified
- *Geographic Preference:* Mid-West

Missouri (con't)**Enterprise Fund, L.P.**

Joseph D. Garea, Managing Director
150 North Meramec
Clayton, MO 63105
Phone: (314) 725-5500
Fax: (314) 725-1732

- *Preferred Investment Size:* \$500,000 to \$1 Million
- *Investment Policy:* Equity Invest.
- *Investment Type:* Expansion, Later Stage, LBOs/MBOs
- *Industry Preference:* Diversified Manufacturing Distribution or Service
- *Geographic Preference:* Midwest

Gateway Partners, L.P.

John S. McCarthy
8000 Maryland Avenue, Suite 1190
St. Louis, MO 63105
Phone: (314) 721-5707
Fax: (314) 721-5135

KCEP I, L.P.

William Reisler, Manager
233 West 47th Street
Kansas City, MO 64112
Phone: (816) 960-1771
Fax: (816) 960-1777

- *Preferred Investment Size:* \$2 Million
- *Investment Policy:* Equity
- *Investment Type:* Start-up, Expansion, MBO/LBO/Acq.
- *Industry Preference:* Technology, Manufacturing
- *Geographic Preference:* Midwest

Missouri (con't)**MorAmerica Capital Corporation**

(Main Office: Cedar Rapids, IA)
911 Main Street, Suite 2424
Commerce Tower Building
Kansas City, MO 64105
Phone: (816) 842-0114
Fax: (816) 471-7339

- *Preferred Investment Size:* \$500,000 to \$1 Million
- *Investment Policy:* Sub Debt or Pref Stock-Warrants
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

United Missouri Capital Corporation

Noel Shull, Manager
1010 Grand Boulevard
P.O. Box 419226
Kansas City, MO 64141
Phone: (816) 860-7914
Fax: (816) 860-7143

- *Preferred Investment Size:* \$500,000
- *Investment Policy:* Loans, Equity, Debt with Equity
- *Investment Type:* Later Stage
- *Industry Preference:* Manufacturing
- *Geographic Preference:* Midwest

Ohio**Banc One Capital Partners, L.P.**

William P. Leahy, Managing Director
10 West Broad Street, Suite 200
Columbus, OH 43215
Phone: (614) 227-4209
Fax: (614) 224-7675

- *Preferred Investment Size:* \$3 to \$7 Million
- *Investment Policy:* Debt Securities/Equities
- *Investment Type:* Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* Midwest, Southwest

Ohio (con't)**Cactus Capital Company**

Edward C. Liu, President
6660 N. High Street, #1B
Worthington, OH 43085
Phone: (614) 436-4060
Fax: (614) 436-4060

- *Preferred Investment Size:* \$50,000 to \$100,000
- *Investment Policy:* Loans or Equity
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* Midwest (Ln), National (Eq)

Clarion Capital Corp.

Morris H. Wheeler, President
Ohio Savings Plaza
1801 East 9th Street, Suite 510
Cleveland, OH 44114
Phone: (216) 687-8941
Fax: (216) 694-3545

- *Preferred Investment Size:* \$250,000 to \$1 Million
- *Investment Policy:* Equity Investments
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified, Technology Related
- *Geographic Preference:* Midwest, National

Enterprise Ohio Investment Company

Steven Budd, President
8 North Main Street
Dayton, OH 45402
Phone: (513) 226-0457
Fax: (513) 222-7035

- *Preferred Investment Size:* \$50,000 to \$100,000
- *Investment Policy:* Equity Loan Investments
- *Investment Type:* Expansion, Later Stage, Franchise
- *Industry Preference:* Diversified
- *Geographic Preference:* Southwest Ohio

Ohio (con't)**Financial Opportunities, Inc.**

Gregg R. Budo, Manager
210 Broadway East
Cuyahoga Falls, OH 44222
Phone: (330) 922-7193
Fax: (330) 922-7224

Key Equity Capital Corporation

Raymond Lancaster, President
127 Public Square, 6th Floor
Cleveland, OH 44114
Phone: (216) 689-5776
Fax: (216) 689-3204

- *Preferred Investment Size:* \$2 Million
- *Investment Policy:* Willing to make Equity Investments
- *Investment Type:* Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

National City Capital Corporation

William H. Schechter, President & G.M.
1965 East Sixth Street, Suite 1010
Cleveland, OH 44114
Phone: (216) 575-2491
Fax: (216) 575-9965

- *Preferred Investment Size:* \$1 to \$5 Million
- *Investment Policy:* Loans, Equity, Debt with Equity
- *Investment Type:* Expansion, Financing, Later Stage
- *Industry Preference:* Manufacturing, Distribution, Consumer Products
- *Geographic Preference:* Midwest

Ohio (con't)**River Cities Capital Fund L.P.**

R. Glen Mayfield, Manager
221 East Fourth Street, Suite 2250
Cincinnati, OH 45202
Phone: (513) 621-9700
Fax: (513) 579-8939

- *Preferred Investment Size:* \$750,000 to \$1.5 Million
- *Investment Policy:* Equity
- *Investment Type:* Early Stage, Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* OH, KY, IN

Wisconsin**Banc One Venture Corp.**

H. Wayne Foreman, President
111 East Wisconsin Avenue
Milwaukee, WI 53202
Phone: (414) 765-2274
Fax: (414) 765-2235

- *Preferred Investment Size:* \$1 to \$10 Million
- *Investment Policy:* Equity Debt with Equity
- *Investment Type:* Later Stage, Expansion, LBO, MBO
- *Industry Preference:* Publishing, Manufacturing, Distribution, Mail-Order
- *Geographic Preference:* National

Capital Investments, Inc.

Steve Rippl, Exec. Vice-President
1009 W Glen Oaks Lane, Suite 103
Mequon, WI 53092
Phone: (414) 241-0303
Fax: (414) 241-8451

- *Preferred Investment Size:* \$500,000 to \$1 Million
- *Investment Policy:* Subordinated Debt w/ Warrants
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Manufacturing & Value-Added Distributors
- *Geographic Preference:* Midwest, National

Wisconsin (con't)**Future Value Ventures, Incorporated**

William P. Beckett, President
Plaza East Office Center, Suite 711
330 East Kibourn Ave.
Milwaukee, WI 53203
Phone: (414) 278-0377
Fax: (414) 278-7321

- *Preferred Investment Size:* \$100,000 to \$300,000
- *Investment Policy:* Loans with Equity
- *Investment Type:* Expansion, Start Up
- *Industry Preference:* Diversified
- *Geographic Preference:* Wisconsin

M & I Ventures Corp.

John T. Byrnes, President
770 North Water Street
Milwaukee, WI 53202
Phone: (414) 765-7910
Fax: (414) 765-7850

- *Preferred Investment Size:* \$2 to \$3 Million
- *Investment Policy:* Debt & Equity Securities
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified, Manufacturing Medical, Business Service
- *Geographic Preference:* Midwest

MorAmerica Capital Corporation

600 East Mason Street, Suite 304
Milwaukee, WI 53202
Phone: (414) 276-3839
Fax: (414) 276-1885

- *Preferred Investment Size:* \$500,000 to \$1 Million
- *Investment Policy:* Sub Debt or Pref Stock-Warrants
- *Investment Type:* Expansion, Later Stage
- *Industry Preference:* Diversified
- *Geographic Preference:* National

Polaris Capital Corp.

Richard Laabs, President
2100 Northwestern Avenue
Racine, WI 53404
Phone: (414) 637-8388
Fax: (414) 637-6459

Certified Development Company Guaranteed Loans (Section 504)

Objective:	To provide long-term financing for small business fixed assets
Eligibility:	Small, independently-owned businesses that are not dominant in their fields
Cost:	no fixed application costs; individual CDCs may impose application and servicing fees
Services:	Guaranteed loans

The **Certified Development Company Guaranteed Loan** program, also known as the Small Business Administration's (SBA) Section 504 program, helps small businesses finance fixed assets, acquisition of land, buildings, and machinery, as well as construction, renovation, and expansion of existing facilities and leasehold improvements. The program is operated through SBA-licensed Certified Development Companies (CDCs), private organizations chartered to channel investment capital to small and mid-sized enterprises. CDCs work to identify potential business participants, perform credit analyses, recommend loan approval, and close and service loans that they initiate.

CDCs broker Section 504 loans, which are subject to rules established by SBA. Each loan covers a specific small business project, and must be collateralized to the extent that SBA deems reasonable to assure repayment. Personal guarantees of all principles are also required. A Section 504 loan may not exceed \$750,000 unless "significant public policy goals" are involved; the limit may reach \$1 million.

A typical Section 504 loan involves a loan secured by a senior lien from a commercial banker or other lending source covering up to 50% of the project. A CDC provides another 40% of the funds with a junior lien. The business receiving the loan must provide at least 10% of the financing for the Section 504 project.

Eligible firms are businesses with a tangible net worth not in excess of \$6 million, and have had an average net of tax income of less than \$2 million over the preceding two years. Section 504 loans may be used for fixed asset projects such as purchasing land and improvements, including existing buildings, grading, street improvements, utilities, parking lots and landscaping; construction of new facilities; or purchasing long-term machinery and equipment.

A fee totaling approximately 3% charged by the CDC may be financed by the loan. Section 504 interest rates are determined by adding a fixed increment to the market rate of five and ten year U.S. Treasury issues. Maturities may be of 10 or 20 years.



For more information, contact:

The Small Business Administration, 1-800-U-ASK-SBA

